

The Dutch Obstetrical System

Vanguard of the Future in Maternity Care

*Raymond De Vries, Therese A. Wieggers, Beatrijs Smulders,
and Edwin van Teijlingen*

INTRODUCTION

The German poet Heinrich Heine is reported to have said, “When the world comes to an end, I shall go to Holland, for everything there happens fifty years later.” For some, this Dutch “quaintness” explains the unusual system of obstetric care found in the Netherlands, a system where nearly one-third of births occur at home and where midwives have a degree of professional independence unrivaled by midwives in any other country.¹ Heine’s observation about the Netherlands suggests that the unique Dutch way of birth is a vestige from a bygone era—a credible conclusion if you believe that humans are helpless in the face of technology. But the stubborn persistence of midwifery and home birth in the Netherlands, in spite of the declaration of medical professionals elsewhere that midwife-attended birth at home is a dangerous anachronism, forces us to conclude that Dutch obstetrics can be the vanguard of the future.

The singularity of the Dutch maternity care system has made it a model for all those who seek to slow or reverse the march toward the medicalization of birth found in the developed world (Van Teijlingen et al. 2004). For birth activists, the Netherlands has become *the* destination for inspiration and for instruction on how to reorganize birth in their home countries. The uniqueness of the system, coupled with the desire of short-term visitors to find what they are looking for, has resulted in mischaracterizations of the Dutch way of birth. For example, Mehl-Madrona and Mehl-Madrona (1993: 1) claimed- that “over 70% of births [in the Netherlands] are still attended by midwives.” In *fact*, in the early 1990s midwives accompanied about half of all births in the Netherlands (see Table 1.1). As far back as 1910, the first year a breakdown by caregiver is available, midwives in the

TABLE 1.1 Births in the United States and the Netherlands, 1940–2002
(percent of all births)

	<i>Births Supervised by Midwives</i>		<i>Home Births</i>	
	United States	The Netherlands	United States	The Netherlands
1940	8.7	47.7		
1945	6.1	36.1		
1950	4.5	41.1		
1955	2.9	40.9	5.6	76.1
1960	2	36.6	3.4	72.6
1965	1.5	35.3	2.6	68.5
1970	0.4	36.7	0.6	57.3
1975	0.9	38.6	0.9	44.4
1980	1.7	39.4	1	35.4
1985	2.7	41.7	1	36.6
1990	3.9	44.4	1.1	32.1
1995	5.9	36.3	1	31.6
2000	7.7	33.9	1	30.3
2001	8	33.9	1	28.9
2002	8.1	33.4	1	29.4

SOURCE: NCHS (www.cdc.gov/nchs), CBS (www.cbs.nl), TNO (Anthony et al. 2005).

Netherlands attended 57.7 percent of all births, and at no point since did they attend more than 60 percent of births. Midwives *do* attend over 70 percent of the births that occur at home. It is likely the authors heard this statistic and somehow assumed that the 70 percent figure applied to *all* Dutch births. In her ethnographically based discussion of the lessons of Dutch obstetrics for Americans, Rothman (1993: 201) sets the scene by discussing windmills, tulips, bicycles, and Rembrandt, giving an over-romanticized picture of Dutch midwifery and society. Her description of the Netherlands as a “Mecca for midwives” and the home of noninterventive obstetrics makes it difficult to believe that Dutch midwives once argued for the right to wield forceps (see Marland 1995: 328) or that they are beginning to outfit their offices with the apparatus for sonograms (see Pasveer and Akrich 2001).

Even the Dutch misrepresent their obstetric system. For example, *Expecting*, an annual special issue on pregnancy and birth of a Dutch parenting magazine, states that “in the Netherlands about 70% of babies are born at home, without complication or unusual interventions” (Schiet 1994: 112). In the early 1960s, this *was* the case (72.6 percent of births were at home in 1960), but throughout the last decades of the twentieth century, the

percent of births at home continued to decline. By 1994, the date of the article in *Expecting*, the home birth rate was just over 30 percent.

Although we count ourselves among the champions of the way obstetrics is organized and accomplished in the Netherlands, we believe that the Dutch system can serve as a model *only* if we see it clearly, with its strengths and its flaws, and with its ties to the structure and culture of Dutch society. To that end, we offer a description of the Dutch way of birth that includes (1) stories and statistics that paint a picture of the players and outcomes of the system; (2) accounts of the history of midwifery and its place in the organization of medical care; and (3) explanations of the ways obstetrics in the Netherlands expresses the culture of that country.

SEEING MATERNITY CARE IN THE NETHERLANDS

Too often descriptions of the Dutch way of birth are limited to statistical portrayals of caregivers and outcomes; even though these are clearly necessary, they exclude the voices of midwives and the women and families they serve, and they fail to convey what occurs in the homes, polyclinics,² and hospitals of the Netherlands. In the following pages, we provide a statistical picture of the Dutch way of birth, interspersed with stories of births that reveal what birth in the Netherlands feels like and how it is valued.

We open with a story told by a Dutch mother that illustrates the features of maternity care in the Netherlands much admired by non-Netherlanders:

My second pregnancy was not as exciting as my first. I was often tired and had many colds. [My labor began when] I felt a weak contraction, and then a while later, another small one. I decided to go to bed nice and early. If I could get to sleep, maybe the contractions would stop. That did not work. I was definitely having contractions, so I went with my big bare belly and stood in front of the gas heater. That felt great! The contractions became stronger and more regular, and we called the midwife.

First came the assistant and then the midwife. My friend Jetske came with a big bouquet of fragrant lilies. My neighbor, Otto, happened to come by and asked if he could stay. Sure, why not? Between contractions I was able to relax, and when another came, I was able to handle it easily. I felt like an old hand at this. Gradually the contractions became more frequent and intense, and I suddenly recalled how vicious some contractions can be.

I began to feel irritated and impatient. I had had enough of this; I wanted no more. Soon came the urge to push, but I had to keep these strong contractions at a distance, I had to puff them away. But they were so powerful I had to go along with them, and when I did I found that I enjoyed them. The midwife broke the membranes. And then, an enormous relief, my second child arrived, a beautiful little girl with dark hair, Rosa.

She lay next to me safe and warm, softly groaning as if gradually recovering from her journey. When everyone had gone and Frans, my husband, was

sleeping on the sofa and Swaan, my little daughter, was in her bed, and Rosa [was] in my arms, the room changed into an island of rest, the center of the universe.³

From the point of view of the midwife, the Dutch way of birth has additional advantages. One of us, Beatrijs Smulders, is a practicing midwife in the Netherlands, and in this chapter she reflects on her work to complete our picture of midwifery in her home country. In this story Beatrijs describes the “deep feeling of emancipation” that accompanies birth at home:

A good birth strengthens the self-image of the birthing woman at a deep, non-rational level. A system in which women do the delivery themselves emancipates women. Often women say after the delivery, “After this I can do anything!” or “Because I was forced to rely on myself during the delivery, I learned all of a sudden to trust myself.”

This is well illustrated by the story of a professor, whose pregnancy at the age of 43 was unexpected and unwanted. She never had the desire to have children. She had, in fact, achieved everything that a woman could achieve in a “man’s world.” She was a university professor, had written bestsellers, and was on several important policy committees. And then this, totally unexpected! At her prenatal visits she was often confused, not knowing whether to be happy or grief stricken. She worked harder than ever, and she wanted to return to work as soon as possible after the delivery. She was not looking forward to the birth. This cool-headed woman preferred to go to hospital with plenty of pain relief. She questioned why we midwives were so keen on the use of water—being under the shower or in the bath during contractions. To her that seemed totally ridiculous. Her mind was made up and I promised to respect her wishes.

But during the pregnancy she changed—she followed a parent-craft course, attended an antenatal education evening and during the last check-up she suggested that “the first few centimeters dilation I’ll stay at home, and well, the pain relief can come at the end.”

Her delivery started slowly. She found it extremely difficult to put aside the troubling thoughts that filled her head and to give in to her contractions, to her body. When she finally let go, the delivery went unbelievably fast. She insisted on staying at home, and even hopped into the “damned” bath. She dilated fully and within an hour she had a beautiful son in her arms.

Six weeks later she came for her postpartum check-up. She was a very different person: in one arm her son breastfeeding, in the other a big bunch of roses. When I asked her to reflect on her birth she glowed and said: “For years I have fought to make it in a man’s world. Even though I succeeded something essential was missing. Now that I have had a baby, I know what that is. At a very deep level I was always unsure about myself; now something fundamental has changed. Rationally I can’t put my finger on it, but bodily, intuitively, I have a new self-esteem that I had never experienced before, and as a result I am certain that everything will become easier for me.”

TABLE 1.2 Birth in the Netherlands by place, 1995–2002
(percent)

	<i>Polyclinic</i> (midwife or GP)	<i>Home</i> (midwife or GP)	<i>Clinic</i> (gynecologist)
1995	11.7	31.6	56.6
1996	11.1	30.3	58.5
1997	10.5	29.6	59.8
1998	10.7	29.1	60.1
1999	10.6	30.8	58.6
2000	10.2	30.3	59.4
2001	10.5	28.9	60.4
2002	11.2	29.4	59.4

SOURCE: TNO (Anthony et al. 2005).

This is the kind of reason that makes it so crucial that we in the Netherlands must hold onto a maternity care system that allows women, as much as possible, to make their own decisions and take control over pregnancy and birth, a system where women can choose their own midwife and take things into their own hands.

These narrative pictures of birth naturally lead to questions about the broader dimensions and the trends in the Dutch way of birth. Here is where statistics can help. Tables 1.1 and 1.2 present the most-requested information about midwifery and birth in the Netherlands: the extent of home birth and the role of midwives in birth.

These tables are unsurprising and surprising at the same time. We are unsurprised to learn that the rates of home birth and midwifery involvement in birth are much, much higher than those found in the United States. In the United States there are very few births at home, and midwives are involved in less than 10 percent of births (Martin et al. 2005). But many will be surprised to see that the percentage of births at home in the Netherlands has dropped dramatically in the past four decades, and that—compared to Scandinavian countries where midwives attend nearly all births—Dutch midwives accompany fewer than half of all births.

Of course, the inevitable question that arises in the minds of those first learning about the Dutch way of birth is, is it safe? The answer to this question is found by looking at infant mortality rates in several countries.⁴ Table 1.3 shows that the Netherlands has rates lower than those in the United States, similar to those in the United Kingdom and Canada, and higher than those found in Sweden.

TABLE 1.3 Infant mortality rates for various countries, 1960–2005

	<i>The Netherlands</i>	<i>Canada</i>	<i>Sweden</i>	<i>United Kingdom</i>	<i>United States</i>
1960	17.9	27.3	16.6	22.5	26
1965	14.4	23.6	13.3	19.6	24.7
1970	12.7	18.8	11	18.5	20
1975	10.6	14.3	8.6	16	16.1
1980	8.6	10.4	6.9	12.1	12.6
1985	8	8	6.8	9.4	10.6
1990	7.1	6.8	6	7.9	9.2
1995	5.5	6	4.1	6	8
2000	5.1	5.3	3.4	5.6	6.9
2001	5.4	5.2	3.7	5.5	6.8
2002	5	5.4	3.3	5.2	7
2003	4.8	5.3	3.1	5.3	6.9
2004	4.4	5.3	3.1	5.0	6.8
2005	4.9	5.4	2.4	5.1	

NOTE: Infant mortality rate is defined as the number of deaths in the first year of life per 1,000 live births.

SOURCE: Eurostat (epp.eurostat.cec.eu.int), StatCan (www.statcan.ca), NCHS (www.cdc.gov/nchs), OECD Health Data.

Another measure of the outcome of maternity care is the proportion of births that are accomplished surgically. The cesarean section (CS) rates for the United States show a gradual increase from 23.5 percent in 1995 to 29.1 percent in 2004, a steady increase over the past fifteen years: in 2004 nearly one in three women in the United States was delivered surgically. The CS rate in the Netherlands nearly doubled in the same period, from 7.5 percent in 1990 to 13.8 percent in 2004, but it is still less than half the rate in the United States.

Maternity care in the Netherlands is remarkable for its degree of cooperation between caregivers at different levels and locations in the system. Those who attend home births in other nations often find that hospital-based caregivers are reluctant to offer support to home birth mothers and are prone to scolding women whose care is transferred to the hospital (De Vries 1996; Davis-Floyd 2003). In the Netherlands the transition from home to hospital is much smoother—so smooth that some worry about overreliance on backup care and consequent overuse of the hospital.

Rothman describes a typical transfer from home to hospital. She is an American sociologist who went to the Netherlands to take a look at its much-discussed maternity care system; as she says, “It is kind of a rite of passage for the childbirth aficionado.” But instead of witnessing a calm

and cozy affair, she got to see what happens when a home birth mom is transferred to the care of a gynecologist:

The labor was not progressing, and the midwife became concerned. Perhaps bladder pressure was a problem. She tried a catheter, change of position, more time, more changes. Then the decision to move to the hospital: helping the woman slip some clothes on, all of us helping her maneuver down [the] stairs, placing her in the car next to her boyfriend, waving goodbye to the worried grandmother-to-be, jumping in the car with the midwife, and the two cars going off to the hospital. I remember holding the hospital door open for the midwife, carrying one of her bags while she carried another, with the birth stool tucked under her arm. There was a friendly welcome at the entrance, and a warmer welcome from the nurse on duty. A brief exchange of information, and the nurse set things up the way the midwife liked them—an experienced team comfortably working together. More time, more changes of position. I found myself alone with the laboring woman, who was stretched out on a padded table, crying in a Dutch that even I could understand, “I want to go to sleep, let me sleep.” Reassuring her (in English—who knows what a laboring woman understands of a language she studied in high school?), but aiming for the right tone of compassion and assurance, I said the midwife would be right back, “She’s coming, she’ll be right here.” Then finally the consultation . . . the obstetrician coming in, conferring with the midwife, briefly examining the woman, and agreeing to do a Caesarean section . . . the goodbyes, and the midwife assuring the woman and the boyfriend that things were now okay. She said she would see them tomorrow, and off we went. (Rothman 1993: 206)

Rothman was both surprised and pleased with the easy transfer of care from midwife to specialist, which is unlike the situation she observed in the United States, where women transferred from home to hospital are often subject to lectures and harsh treatment from obstetricians and nursing staff (see Davis-Floyd 2003 for examples).

Beatrijs reflects on how the setting of birth influences the midwife’s attitude toward the event:

The midwife knows two kinds of fear: the fear of making a mistake and the fear of the immensity of the occasion. The first fear is not something to really worry about. If you have the skills, you will know exactly what to do in each situation, and when you should or should not intervene. The rules are clear, and with increasing experience, you learn to trust your judgment.

The second fear is much more present at home than in the hospital. In the hospital, equipment helps you to allay fear. You can hide behind the technology. Listening with a big imposing CTG [cardiotocograph, electronic fetal monitor] machine is no more efficient than listening with a little wooden Pinard, but the former mystifies. It impresses your audience, and it seems to remove the fear in the midwife. The institution radiates the

ultimate control. At home there is nothing to mystify. The woman does it herself, with your support. You try to disturb this process as little as possible, so you listen with your Pinard or Doppler. Strange as it may sound, at home you feel much more that the baby floats between heaven and earth, that a new life is on its way.

The art of the midwife is to never act on the basis of fear. You must learn not to identify with fear. You experience your feelings and let them pass over like clouds, until the sky is blue again. That's when you act. When you act out of fear, there is the risk that you medicalize. Before you know it, you have sent a woman to an obstetrician or to hospital unnecessarily.

Beatrijs's comments are instructive for those who would like to understand the shift of birth from hospital to home. She notes that fear of birth leads to its medicalization, but it is also true that medicalization leads to fear: as birth becomes defined as a medical event, both mothers and midwives begin to fear that birth requires all the accoutrements of medicine, creating a spiral toward complete hospitalization.

What do statistics reveal about the transfer of care from midwife to gynecologist and from home to hospital in the Netherlands? Interestingly, more women are choosing to *start* their care with midwives or general practitioners (GPs). The number of women receiving care from a gynecologist at the start of pregnancy dropped from 18.7 percent in 1995 to 14.3 percent in 2002, and over the past decade, nearly 60 percent of women *started their labor* under the care of either a midwife or a general practitioner at home or in the polyclinic. At the same time, however, referrals during antenatal care increased from 23.8 percent of all pregnant women in 1995 to 28.3 percent in 2002 (Anthony et al. 2005).

It is also noteworthy that in recent years, the rate of transfers from home to hospital has been remarkably stable: referrals during labor and birth increased from 14.1 percent of all birthing women in 1995 to 16.8 percent in 2002. Less than 10 percent of women who start labor at home are transferred to hospital, and 6 percent to 7 percent of women who start labor in a clinic with a midwife or GP are transferred to the care of an obstetrician.

THE STRUCTURE OF MATERNITY CARE IN THE NETHERLANDS AND HOW IT GOT THAT WAY

Birth stories from the Netherlands—including the ones we have retold here—present cozy pictures that can lull us into assuming that Dutch caregivers simply know how to get along, and that mothers instinctively know how to give birth. But in reality, the coziness of Dutch birth is the product

of a system of rules, regulations, educational programs, and arrangements between professionals. And as we will see, the elements in this system are constantly reviewed, argued over, and negotiated.

Indeed, most explanations of the persistence of home birth and independent midwifery in the Netherlands look to the structure of maternity care and health care (e.g., Van Teijlingen 2003: 124). The unique features that combine to produce the Dutch way of birth include

1. A state-organized health care system that mixes public oversight with a (commercial) health insurance industry. The Obstetrics Indications List carefully distinguishes “physiological” and “pathological” pregnancies and births, and women in the first category are reimbursed only for care provided by midwives and GPs.⁵ As a result, almost 80 percent of Dutch women begin their prenatal care with a midwife, and an additional 6.5 percent begin with a GP. As a result of referrals to secondary care during the course of prenatal care and labor, midwives are independently caring for over 37 percent of women at the time of birth, GPs an additional 3.2 percent, and gynecologists just under 60 percent (some of which are, in fact, accompanied by midwives). Of the women remaining in the care of the first line (those accompanied by midwives and GPs), the majority (71 percent) give birth at home, resulting in a total home birth rate of just under 30 percent (Wiegers 2006).
2. Well-educated midwives, GPs, and specialists who—thanks to guidelines developed by government, insurance companies, and professional organizations—know how to work with each other. The midwives and GPs are trained to select those women who are at increased risk during pregnancy, birth, and the postpartum period. Like most European countries, the Netherlands has many more midwives and GPs than it does specialists in gynecology and obstetrics, a structural decision that reflects the attitude that birth is normal and requires specialist attention only in those rare cases where something goes wrong (see Table 1.4).
3. A system for postpartum care provided by *kraamverzorgenden*—maternity home care assistants. This feature of Dutch obstetrics is the provision of postpartum care by specially trained caregivers, who come to the home of the new parents and do everything from watching the condition of mom and baby, offering instruction in baby care and feeding, to household chores and shopping, and if necessary, cooking (Van Teijlingen et al. 2004). Expectant parents must register for these services early in the pregnancy; unfortunately, because of a shortage of *kraamverzorgenden* in recent years, the average number of hours of

TABLE 1.4 Practicing gynecologists, midwives, and family doctors in the Netherlands, 1980–2007

	<i>Gynecologists</i>	<i>Midwives</i>	<i>Family Doctors</i>
1980	545	814	5522
1985	673	945	6212
1990	604	1122	6800
1995	592	1332	7125
2000	655	1578	7706
2001	675	1627	7763
2002	699	1731	7945
2003	NA	1825	8107
2004	NA	1955	8209
2005	NA	2080	8408
2006	NA	2197	8495
2007	833	2265	8673

SOURCE: NIVEL (Hingstman and Kenens 2007a, 2007b; Van der Velden, Vugts, and Hingstman 2004; Van der Velden et al. 2008).

maternity care assistance spread over first eight days postpartum has been reduced from sixty-four to forty-four hours after normal childbirth (Wiegers 2006).

4. “Polyclinic” settings in hospitals organized to provide low-tech, high-touch birth.
5. A system for well-child visits.
6. Strong political support for midwifery and home birth across the political agenda (see De Vries 2005: 93–137).
7. A network of roads and hospitals that allows easy access to specialist care.⁶

Two of the above features—the Obstetrics Indications List and the unique, protected position of the midwife—are especially distinctive and require further explanation.

Indications for Cooperation

Pregnant women in the Netherlands move freely between care settings and caregivers. Without some sort of organization and control, these back-and-forth referrals would quickly become confusing, if not dangerous. If there were no rules governing the comings and goings of obstetric clients, some gynecologists might “hold on” to the women referred to them, reluctant to send them back to midwives and GPs, who in turn would be slow

to send clients to specialists, preferring to manage even complicated cases at home or in the polyclinic.

From the point of view of health policy, this management of interprofessional rivalry in the Dutch system is remarkable. The system does more than simply control the competition for clients between midwives, GPs, and gynecologists; it also generates an unusual degree of cooperation between midwives and physicians. The Obstetric Indications List, a set of guidelines that specifies the conditions for referrals between primary and secondary care, facilitates this cooperation. The Obstetric Indications List defines what “healthy” means, distinguishing between normal (“physiological”) and high-risk (“pathological”) pregnancies and births. These definitions are then used to identify the conditions that require midwives and general practitioners to refer their clients to (obstetric) specialists. Without such a list, the preference for primary care in Dutch obstetrics would not be possible. The Obstetric Indications List is a critical part of the unique Dutch way of birth. Having a screening system for identifying “physiological” and “pathological”—rather than “high-risk” and “low-risk”—pregnancies allows the Dutch to avoid the assumption, made in other industrialized countries, that all births should be defined in terms of “risk.” When a woman with a healthy pregnancy is labeled “low risk,” it puts her on a continuum that ends in “high risk,” justifying the need for the monitoring of her pregnancy, and indeed all pregnancies, by a specialist.⁷

Midwives

Midwives in many other countries admire, if not envy, the autonomy of their sisters in the Netherlands (Van Teijlingen et al. 2004: 163). When they see the relative freedom enjoyed by Dutch midwives, they are often eager to know how this happened. Elsewhere in Europe, the rise of modern obstetric technology relegated midwives to the position of doctor’s assistant. How did Dutch midwives escape this fate? It is clear that *current* regulations favor midwives, but how did those regulations come to be?

Intrigued by these questions, historians have explored the events that allowed Dutch midwifery to arrive in its present position.⁸ The consensus of these histories is that midwives in the Netherlands benefited from the early arrival of municipally sponsored education and regulation. Unlike their European neighbors, the Dutch believed that if midwives had the proper training and regulatory oversight, they could be important figures in securing safe childbirth and promoting population growth. Rather than marginalizing midwives—a strategy used by municipal and regional authorities elsewhere in Europe—city leaders in the Netherlands

sought to educate these women and put them to work in service of the townspeople.

As early as 1463, the town of Leiden appointed a municipal midwife, who was given a small salary to see to the care of all parturient women. Her services were provided without charge to the poor; the rich were instructed to make a contribution for care received (Van der Borg 1992: 44–45). She was required to call a physician for help in complicated cases and to train aspiring midwives. These fifteenth-century rules foreshadow the development of midwifery in the Netherlands: the “work terrain” of midwives was limited to “normal” births (physician assistance was required in difficult cases), and midwifery was recognized as a distinct field of practice (student midwives should train with midwives). By the eighteenth century, most towns in the Netherlands had appointed municipal midwives.⁹

In the nineteenth century, municipal regulations and training programs were gradually replaced by national laws and state-funded education. The first national law regulating midwifery was the 1818 Health Act that gave midwives a clear and defined sphere of practice. Midwifery was specifically included among the several *medical* professions regulated by the Act, and the competencies and duties of midwives were distinguished from those of others providing birth care: men-midwives (trained by apprenticeship) and obstetric doctors (academically trained). Additionally, the Act confined midwives’ practices to those births “which were natural processes or could be delivered manually, so that the midwife may never use any instruments for this purpose” (quoted in Lieburg and Marland 1989: 299).

Reviewing the early efforts to regulate midwifery in countries outside the Netherlands, Van der Borg (1992: 144) points out that the Dutch system of educating and regulating midwives gave the profession another advantage. Less regulated and less educated, “midwives in other Western European countries lacked the necessary protection from the competition of physicians and men-midwives who were becoming skilled in obstetrics.”

The introduction of state examinations and schools for midwifery was part of the government intervention in the organization of maternity care. The first state school for midwives was established in Amsterdam in 1861, and a second one in Rotterdam in 1882; a Roman Catholic school was opened in Heerlen in 1912, and a fourth school was established in Groningen in 2002. The training program in these state schools lasted two years. Topics included general anatomy and physiology, special knowledge of the female parts, the care of infants and sick women, and both theoretical and practical midwifery. In 1920, a third year was added to midwifery training, allowing further competence in infant and prenatal care.

Dutch midwives continue to be among the best-educated midwives in the world, a fact that is made more striking to many because midwifery education in the Netherlands remains *outside* the university. The number of students admitted to the four schools of midwifery is deliberately limited in order to guarantee every trained midwife a job (Van Teijlingen 1994: 146). In the late 1990s, approximately 1,000 applicants applied for the combined 120 openings for first-year students (Rooks 1997: 14). The schools use a modified lottery system to select those to be admitted: candidates are screened, and those who are approved are put into a pool from which names are drawn.

In 1994, a fourth year was added to the midwifery curriculum. During their four years of midwifery school, students are trained in antenatal and postnatal care; the management of normal, physiological births both at home and in the polyclinic; the identification of high-risk situations in the antepartum, intrapartum, and postpartum periods; and techniques of scientific research. Midwifery students spend about half of their education learning in the classroom and at the “bedside” (i.e., in clinical settings) and the other half apprenticing with a qualified midwife. Skills training is an important part of the curriculum, with particular emphasis on (1) diagnostic, (2) therapeutic, (3) laboratory, and (4) social skills, as well as (5) skills needed to manage pregnancies.

The way midwives work is also changing (see Table 1.5). Until the 1980s, less than 10 percent of midwives worked in group practices; most worked single-handedly and were on call 24/7. This way of working offered a high level of career continuity. The pregnant woman could be fairly certain that

TABLE 1.5 Distribution of primary-care midwives working in different types of practices, 1980–2007

	<i>Solo Practice</i>		<i>Duo-Practice</i>		<i>Group Practice</i>		<i>Total</i>	
	n	%	n	%	n	%	n	%
1980	391	67.6	136	23.5	51	8.8	578	100.0
1985	322	46.8	269	39.1	97	14.1	688	100.0
1990	235	27.6	326	38.3	291	34.2	852	100.0
1995	135	13.2	316	30.8	575	56.0	1,026	100.0
2000	88	7.2	243	19.9	889	72.9	1,220	100.0
2005	63	4.3	189	12.8	1,222	82.9	1,474	100.0
2006	70	4.6	174	11.4	1,282	84.0	1,526	100.0
2007	76	4.8	169	10.7	1,332	84.5	1,577	100.0

SOURCE: Hingstman and Kenens 2007a.

her own midwife would attend all antepartum care, attend the birth, and provide the postpartum checkups. Just two and a half decades later, the overwhelming majority of Dutch midwives work in group practices of three or more midwives. The move to group practice is a reasonable strategy for midwives who want to create a more balanced life, but it subtly alters the relationship between midwives and mothers.

BUT WHY? THE CULTURAL FOUNDATIONS OF DUTCH MATERNITY CARE

These structural features provide a fine, sociological explanation of Dutch maternity care, but they cannot tell the whole story. We still must ask, Why did the Dutch create these structures to support home birth when, everywhere else in the world of modern obstetrics, birth at home was largely abandoned? To answer *that* question we must look beyond structures to the culture of the Netherlands. There is simply no other way to explain the Dutch way of birth. The foundations of Dutch maternity care rest in cultural ideas that are peculiar to the Dutch: ideas about the family, about women, about home, about bodies and the efficacy of medical treatment, about thriftiness, about heroes, about solidarity. We consider each of these in turn.

The Dutch were the first among modern nations to experience the “nuclearization” of the family. The Dutch family nuclearized in the late seventeenth and early eighteenth centuries, earlier than the rest of continental Europe, a peculiarity that is confirmed in the language. Dutch is the only Germanic language with a unique word for the nuclear family: *gezin*. Furthermore, as the wives of farmers, fishers, and traders—the primary occupations in the Netherlands—Dutch women have been tied, both economically and ideologically, to home and family. The strong identification of femininity with home and with the *gezin* is reflected in their historically high fertility rates and their low rates of participation in paid employment. How has this fact affected birth practices?

According to Dutch sociologist Van Daalen (1988, 1993), the unique features of Dutch family life created and maintain a preference for home birth. She points out that in other European countries, the nuclearization of the family occurred simultaneously with industrialization and was marked by the increasing use of professional help for events once attended by family members: birth, sickness, and death. Having nuclearized earlier, the Dutch family resisted the institutionalization of birth and death. An effort in the early nineteenth century to establish maternity clinics in Rotterdam was deemed by the city council to be inappropriate because the very idea of giving birth outside of the

home was in opposition to the “national character.” Incidentally, these distinctive Dutch ideas about the family also explain a few present-day oddities of family life in the Netherlands, including the limited use of professional childcare by Dutch parents and the less-than-generous policies for maternity leave of an otherwise progressive government. The care of children is work that is to be done within the family, not farmed out to childcare professionals.

Domestic confinements also fit well with Dutch ideas about home. According to Rybcinski (1986), the Dutch are responsible for our current notions of “home” as a place of retreat for the nuclear family. For a variety of social, economic, and geographic reasons, the Dutch were the first to develop single-family residences—small, tidy, well-lit homes—ideally suited for the *gezin*. The importance of the nuclear family, coupled with the domestic role of women and the tidiness of their homes, made home the logical place for birth. When Dutch women and men are asked why they prefer birth at home to birth in the hospital, they will often reply that home birth is more *gezellig*. *Gezelligheid* is often translated as “coziness,” but in fact there is no single English word that captures the full meaning of the term. *Cozy* comes close, but *gezellig* also implies warmth, affection, contentment, enjoyment, happiness, sociability, snugness, and security. For the Dutch, birth at home is *gezellig* in a way birth in the hospital never can be.

Home birth fits well with Dutch ideas about medicine and science and with Dutch notions of “thriftiness.” The Dutch are not quick to seek medical solutions to bodily problems, a fact evidenced by their low use of medications. Compared to their European neighbors, the Dutch go to the doctor less and use fewer prescribed and over-the-counter medications. Furthermore, Dutch public policy is characterized by rationalist ideas about the use of science in the formation of public policy, leading to the avoidance of moralistic stances and to an institutionalized willingness to experiment with new approaches to health (and social) policy that test their efficacy and efficiency. This frame of mind shapes Dutch policy on soft drugs, prostitution, euthanasia, *and* the location of births. The government has funded many studies to examine the safety, cost, and desirability of home births, and has made policy decisions based on those studies.

Dutch ideas about heroes also seep into maternity care policies. The Dutch are disinclined to celebrate the heroic, a fact that is evidenced by the absence of large monuments in their cities. Dutch children are still reminded, “Doe maar gewoon, dan doe je al gek genoeg” (“Just behave normally, that is crazy enough”), and “Kom niet boven het maaiveld” (“Don’t stick out above the mown field,” implying that if you do, you might get your head cut off). Gynecology in the Netherlands reflects

this Dutch tendency to downplay the heroic. In marked contrast to U.S. obstetricians—who are *inclined* to heroic interventions, rescuing a laboring woman from protracted pain and life-threatening complications with surgery (episiotomies, forceps, and cesarean sections) or medications—gynecologists in the Netherlands shun the role of hero. During interviews, De Vries noticed that several Dutch gynecologists went out of their way to mention that they do not take a heroic approach to birth. The following is typical:

Q: De Vries: Why is the Dutch maternity system so different?

A: Gynecologist: I think maybe it has a lot to do with the history of our country. We always have been very individual, self-assured, emancipated people; a little bit mistrusting anyone . . . including doctors. I always say hospitals are dangerous. . . . And maybe it has to do with the character of the people, that the doctors think with a little bit of relativity about their own duties and possibilities. We are not so much heroes, we do our best. That's the difference. [When you play the hero] you don't let [your patients] grow. [You should] just play your role in a very simple way. . . . You're there, like a tiger sleeping in the sun, I sometimes say. With just one eye open to do the correct thing in the right time. Just a moment, and then you sleep again.

This cultural disinclination toward obstetric heroism is sustained by a system that minimizes competition among gynecologists and between gynecologists and midwives. In market systems, obstetrician/gynecologists have an incentive to sell their “superiority” as the heroes of birth.

Finally, like many other European nations, the Dutch value “solidarity,” the responsibility of all for each other. The idea of a guaranteed basic package of benefits, of controls on the price/cost of services, and of limited access to certain services works in the Netherlands in a way that is impossible to imagine in the more individualistic, market-driven United States. Some say that European notions of solidarity are the product of two world wars that required cooperation for daily survival. Dutch solidarity is often linked to the “polder model” of economic and social organization—a model that takes its name from the kind of cooperation needed to keep the polders¹⁰ from flooding. The polder model is characterized by ongoing and constructive dialogue between employers, trade unions, and the government, and it is credited with reducing government debt, lowering the overall tax burden, and strengthening the market economy. This attitude of solidarity allows the Dutch to see their own health care in the context of the larger system (“If I demand specialist care for my normal

birth, it will drive the cost of health care up and reduce access for others”) and promotes cooperation between different caregivers in the health care (and maternity care) system.

THE FUTURE OF MIDWIFERY AND HOME BIRTH IN THE NETHERLANDS

In November 1999 one of us (De Vries) had a conversation about the future of midwifery and home birth in the Netherlands with a well-known Dutch health researcher. His comments reflected a level of concern, indeed of pessimism, shared by many at that time. He is a strong supporter of the Dutch obstetric system and an advocate for home birth, yet he said: “Heine was right. Other nations abandoned home birth fifty years ago and now the Dutch are finally following their lead. In five years it is over . . . there will be no home birth in the Netherlands.” Time has proven him wrong, but are his worries about the future of birth in the Netherlands legitimate? Given the favorable geographic, structural, political, and cultural climate for midwifery and home birth in the Netherlands, and given the fact that the percentage of births occurring at home seems to have stabilized at around 30 percent, should supporters of the Dutch model be concerned?

Having looked at the factors that helped sustain the system, let us briefly consider the developments that are pushing the Dutch to seek maternity care in hospitals: lessons learned here are particularly pertinent for those who want to make their obstetric/midwifery systems less medical. The steepest decline in home births occurred in the 1970s (see Table 1.1); some suggest this move to the hospital was largely the result of a government decision to allow healthy women the option of a short-stay hospital birth (i.e., a polyclinic birth).¹¹ But this policy decision alone cannot account for the decreased popularity of midwife-assisted birth at home: other trends in society encouraged women and midwives to choose this option. For example, increased use of hospital birth is associated with Dutch women’s increased level of participation in paid labor. It is true that Dutch women participate in the paid labor force at lower rates than do women in other industrialized countries; however, it is also true that their participation rates have risen rapidly over the past twenty years (see Pott-Buter 1993; Henkens, Grift, and Siegers 2002). This upward trend has resulted in an increase in older mothers (who have a greater likelihood of being diagnosed with a “complication” than do younger mothers), a decrease in fertility, and changing notions of the family and the woman’s place in it. For many working women, the hospital seems a convenient choice, a respite from the duties of their job and the chores of housekeeping.

Interviews with expectant parents show that Dutch attitudes toward birth are becoming more like those in other countries. When asked why they chose a polyclinic birth, parents who had done so expressed attitudes toward home and technology similar to those expressed in surrounding lands. The most common reasons for not staying home for birth are *te veel rommel* (too much mess) and the desire to have *alles bij de hand* (emergency equipment readily available) (see Wiegers 1997). Dutch women are increasingly choosing the “convenience” of institutionalized birth over the *gezelligheid* of home birth. These developments suggest that there may be a further decline in midwife-assisted home birth.

The Dutch response to these changes suggests what must be done to export the Dutch way of birth to other countries. Today, all the forces that have shaped midwifery in other countries exist in the Netherlands: medical technology and hospital efficiency are being used to achieve the (professional) goals of medical specialists and to meet the needs of a new generation of clients. The Dutch government, midwives, and consumer groups have responded by calling on the unique cultural and structural features of Dutch society described above to create policy and organize consumer campaigns. Government support for midwifery and home birth remains strong, as evidenced by recent decisions to train more midwives, to increase their salaries, and to reduce the *normpraktijk* (i.e., the number of births a midwife is expected to attend each year).¹² In these efforts to protect midwives and birth at home, the Dutch show the way forward for midwives elsewhere, offering a model of how to weather social change and social conditions that seem incompatible with a strong profession of midwifery.

It is for us to discover features of our societies and our cultures that favor midwives and the healthier, more satisfying births they offer. In the United States, for example, advocates of home birth and midwives can build on the American obsession with health and fitness: it is a cultural contradiction that pregnant women in the United States will do so much to ensure the health of the fetus and then, at the moment of birth, subject the baby to all the dangers of the drugs and devices of modern medicine. Birth activists should seize on this contradiction and use it as a wedge to open a policy conversation about the costly, impersonal, and dangerous way of birth in the United States. Those in other countries must look for similar cracks in the system, places where cultural values and policy objectives can be used to promote the safe, sane approach to birth offered by midwives. This kind of activism will help midwifery regain its rightful place as the standard of care for pregnancy and birth.

Vanguard or vestige? There are those—both outside and inside the Netherlands—who are convinced that the Dutch way of birth is nothing more than a vestige, a remnant from an earlier period in history. We believe that

Information for Foreigners

The following list of sites is adapted from the English website for the Royal Dutch Organisation of Midwives (KNOV):

<http://www.verloskundigeninnederland.nl/home/%5Fservice/information%5Ffor%5Fforeigners/>.

Registratie en Informatie Beroepsgroepen in de Zorg (<http://www.ribiz.nl/>): Helps people with foreign health care qualifications who wish to practice their profession in the Netherlands by directing them to the right institutions. This site informs you about the available possibilities.

The Verloskunde Academie Amsterdam (<http://www.verloskunde-academie.nl/default.aspx>): Helps people with foreign midwifery qualifications with assessments and education.

Midwives Information and Resource Centre (MIDIRS) (<http://www.midirs.org/>): An educational not-for-profit organization that aims to be the central source of information relating to childbirth.

International Confederation of Midwives (<http://www.internationalmidwives.org/>): An international non-governmental organization that unites eighty-five national midwives' associations from over seventy-five countries.

European Midwives Association (EMA) (<http://www.europeanmidwives.org/>): An association that aims to represent all midwives in the EU and the wider European area.

Parenting in Holland (<http://www.parentinginholland.com/>): Information in English, for people living in the Netherlands, about pregnancy, birth, and parenting issues. (This site is not related to the Royal Dutch Organisation of Midwives, which takes no responsibility for the content in this site.)

midwifery in the Netherlands is *not* just another quaint feature of the lowlands, akin to wooden shoes, destined to disappear from everyday practice. It is a way of birth that is closely tied to both cultural and structural features of Dutch society, a way of birth that can serve as a vanguard for midwives elsewhere, if midwives and their supporters will connect midwifery to features of their own local and national cultures.

ACKNOWLEDGMENTS

This work was supported by grants from the Fogarty Center of the National Institutes of Health (Grant number Fo6-TW01954), the Netherlands Institute for Health Services Research (NIVEL), the Catharina Schrader Stichting (Utrecht, the Netherlands), and several faculty development grants from St. Olaf College.

NOTES

1. Midwives in several Scandinavian countries have a great deal of independence, but nothing like the independence associated with attending births at home, away from the watchful eyes of obstetrician/gynecologists.

2. In Dutch, the term "polyclinic birth" (*poliklinische bevalling*) refers to a short-stay birth (fewer than twenty-four hours) that occurs in a hospital and is attended by a midwife or a general practitioner. A polyclinic birth takes place in a birthing room at the hospital, without referral to specialist care and therefore without formal admission to the hospital. Midwives (and GPs) can use the hospital birthing rooms for their clients, but they do not have admitting privileges. By way of a contrast, a "hospital birth" occurs after referral by a gynecologist: the birthing woman is formally admitted to hospital and gives birth in the clinic under specialist supervision. A curious fact of the Dutch system is that a polyclinic birth and a hospital birth may occur in the same bed—the difference is in the caregiver who accompanies the birth, and in fact, a hospital birth without complications can be counted as a polyclinic birth if the woman returns home within a few hours.

3. From *Bevallen en Opstaan*, Spanjer et al. 1994: 366–67.

4. Infant mortality rates offer an admittedly rough measure of the quality of a perinatal care system including pre- and postnatal care. Neonatal mortality rates are a measure of care at and before birth, but are less available for comparison (see Declercq and Viisainen 2001).

5. This contrasts strongly with countries where obstetricians are reimbursed for care of healthy women, a structural condition that immediately creates competition between specialists and midwives.

6. The closing of smaller hospitals in the last few years has made access to backup care more difficult, causing some to worry about the future of home birth in the Netherlands (see Wiegers, Hingstman, and Van der Zee 2000; Bleker 2000).

7. See Bleker et al. 2005 and De Vries 2005: 116–37 for more detail. An English-language version of the new list, the *Verloskundig Vademecum*, is available at http://www.jiscmail.ac.uk/files/MIDWIFERY-RESEARCH/official_dutch_obstetric_guidelines or http://europe.obgyn.net/nederland/default.asp?page=/nederland/richtlijnen/vademecum_eng.

8. For more complete accounts of the fascinating history of Dutch midwives, see Lieburg and Marland 1989; Marland 1987, 1993a, 1993b, 1995; Van der Borg 1992; Drenth 1998; and Schama 1988: 481–562.

9. In Sweden, where contemporary midwives have a great deal of autonomy in the clinic, municipal regulation and training began in the seventeenth century (see Romlid 1997).

10. A polder is a large area of land below sea level, protected by dikes and kept dry by pumping the water out.

11. Ironically, the government made this decision in an effort to forestall the decline of births at home. Government officials believed that the growing popularity of gynecologist-assisted hospital births was the result of women “inventing” complications because they wanted to be in a hospital. These officials reasoned that if women with no complications were allowed to choose a hospital birth, then more of them would stay under the care of midwives and general practitioners.

12. The *normpraktijk* is a hypothetical number on which fees for service are based. The fees for an equivalent of 120 births will provide a midwife with an income that is regarded as proper for a full-time working professional.

REFERENCES

- Anthony S., M.P. Amelink-Verburg, G.W. Jacobusse, and K.M. van der Pal-de Bruin. 2005. *De thuisbevalling in Nederland, 1995–2002. Rapportage over de jaren 2001–2002*. Bilthoven/Leiden: SPRN/TNO.
- Benoit, C., S. Wrede, I. Bourgeault, J. Sandall, R. De Vries, and E. van Teijlingen. 2005. “Understanding the Social Organisation of Maternity Care Systems: Midwifery as a Touchstone.” *Sociology of Health and Illness* 27.6:722–37.
- Bleker, O.P. 2000. “Verloskundige zorg” [Midwife Care]. *Medisch Contact* 55.35: 1206–1208.
- Bleker, O., L.A. m. van der Hulst, M. Eskes, and G.J. Bonsel. 2005. “Place of Birth: Evidence for Best Practice.” In *Recent Advances in Obstetrics and Gynaecology*, vol. 23, edited by J. Bonnar and W. Dunlop, 77–100. London: Royal Society of Medicine Press.
- Davis-Floyd, R. 2003. “Home Birth Emergencies in the U.S. and Mexico: The Trouble with Transport.” *Social Science and Medicine* 56.9:1913–31.
- Declercq, E., and K. Viisainen. 2001. “The Politics of Numbers: The Promise and Frustration of Cross-National Analysis.” In *Birth by Design: Pregnancy, Maternity Care, and Midwifery in North America and Europe*, edited by R. De Vries, C. Benoit, E. van Teijlingen, and S. Wrede New York: Routledge.
- De Vries, R. 1996. *Making Midwives Legal*. Columbus: Ohio State University Press.
- De Vries, R. 2005. *A Pleasing Birth: Midwives and Maternity Care in the Netherlands*. Philadelphia: Temple University Press.
- De Vries, R., C. Benoit, E. van Teijlingen, and S. Wrede (eds). 2001. *Birth by Design: Pregnancy, Maternity Care, and Midwifery in North America and Europe*. New York: Routledge.
- De Vries, R., S. Wrede, E. van Teijlingen, C. Benoit, and E. Declercq. 2004. “Making Maternity Care: The Consequences of Culture for Health Care Systems.” In *Comparing Cultures: Dimensions of Culture in a Comparative Perspective*, edited by H. Vinken, J. Soeters, and P. Ester, 209–231. Leiden: Brill Academic Publishers.
- Drenth, P. 1998. 1898/1998: 100 jaar vroedvrouwen verenigd [1989/1998: 100 Years of Midwives United]. Bilthoven: Nederlandse Organisatie van Verloskundigen.
- Henkens, K., Y. Grift, and J. Siegers. 2002. “Changes in Female Labour Supply in the Netherlands, 1989–1998: The Case of Married and Cohabiting Women.” *European Journal of Population* 18:139–57.

- Hingstman, L., and R.J. Kenens. 2007a. *Cijfers uit de Registratie van Verloskundige: Peiling 2007*. Utrecht: NIVEL.
- . 2007b. *Cijfers uit de Registratie van Huisartsen: Peiling 2007*. Utrecht: NIVEL.
- Lieburg, M., and H. Marland. 1989. "Midwife Regulation, Education and Practice in the Netherlands during the Nineteenth Century." *Medical History* 33:296–317.
- Marland, H. (ed.). 1987. *Mother and Child Were Saved: The Memoirs (1693–1740) of the Frisian Midwife Catharina Schrader*. Amsterdam: Roldopi.
- . 1993a. "The Guardians of Normal Birth: The Debate on the Standard and Status of the Midwife in the Netherlands around 1900." In *Successful Home Birth and Midwifery: The Dutch Model*, edited by E. Abraham-Van der Mark, 21–44. Westport, CT: Bergin and Garvey.
- . 1993b. "The 'burgerlijke' Midwife: The *stadsvroedvrouw* of Eighteenth-Century Holland." In *The Art of Midwifery Early Modern Midwives in Europe*, edited by H. Marland, 192–213. New York: Routledge.
- . 1995. "Questions of Competence: The Midwife Debate in the Netherlands in the Early Twentieth Century." *Medical History* 39:317–37.
- Martin, J.A., B.E. Hamilton, P.D. Sutton, S.J. Ventura, F. Menacker, and M.L. Munson. 2005. "Births: Final Data for 2003." *National Vital Statistics Reports* 54.2. Hyattsville, MD: National Center for Health Statistics.
- Mehl-Madrona, M., and L. Mehl-Madrona. 1993. "The Future of Midwifery in the United States." *NAPSAC News* 18.3–4:1–32.
- Pasveer, B., and M. Akrich. 2001. "Obstetrical Trajectories: On Training Women/Bodies for (Home) Birth." In *Birth by Design: Pregnancy, Maternity Care, and Midwifery in North America and Europe*, edited by R. De Vries, C. Benoit, E. van Teijlingen, and S. Wrede, 229–42. New York: Routledge.
- Pott-Buter, H. 1993. *Facts and Fairy Tales about Female Labor, Family and Fertility*. Amsterdam: University of Amsterdam Press.
- Romlid, C. 1997. "Swedish Midwives and Their Instruments in Eighteenth and Nineteenth Centuries." In *Midwives, Society and Childbirth: Debates and Controversies in the Modern Period*, edited by H. Marland and S. Rafferty, 38–60. London: Routledge.
- Rooks, J. 1997. *Midwifery and Childbirth in America*. Philadelphia: Temple University Press.
- Rothman, B. K. 1993. "Going Dutch: Lessons for Americans." In *Successful Home Birth and Midwifery: The Dutch Model*, edited by E. Abraham-Van der Mark, 201–11. Westport, CT: Bergin and Garvey.
- Rybczynski, W. 1986. *Home*. New York: Penguin.
- Schama, S. 1988. *The Embarrassment of Riches: An Interpretation of Dutch Culture in the Golden Age*. Berkeley: University of California Press.
- Schiet, M. 1994. "Bevallen in het buitenland" [Birthing in Other Countries]. In *Verwachting* [Expecting] 1: 112–113.
- Spanjer, J., E. de Haan, H. Dijk, L. Poortman, A. Gorter, M. de Waal, M. de Jong, and H. Hagens. 1994. *Bevallen en Opstaan* [Birthing and Uprising]. Amsterdam: Uitgeverij Contact.
- Van Daalen, R. 1988. "De groei van de ziekenhuisbevalling: Nederland en het buitenland" [The Growth of Hospital Birth: The Netherlands and Elsewhere]. *Amsterdams Sociologisch Tijdschrift* 15.3:414–45.

- Van Daalen, R. 1993. "Family Change and Continuity in the Netherlands: Birth and Childbed in Text and Art." In *Successful Home Birth and Midwifery: The Dutch Model*, edited by E. Abraham-Van der Mark, 77–94. Westport, CT: Bergin and Garvey.
- Van der Borg, H. A. 1992. *Vroedvrouwen: Beeld en Beroep* [Midwives: Image and Profession]. Wageningen: Wageningen Academic Press.
- Van der Velden, L. F. J., C. J. Vugts, and L. Hingstman. 2004. *Monitor arbeidsmarkt gynaecologie, Behoefteteraming, 2001–2015: Tussenbalans 2003*. [Monitor Labor Market Gynecologists, Needs Assessment, 2001–2015: Intern Assessment 2003]. Utrecht: NIVEL.
- Van der Velden, L. F. J., L. Hingstman, W. van der Windt, and E. J. E. Arnold. 2008. *Raming benodigde instroom per medische en tandheelkundige vervolgopleiding 2009–2019/2015*. Utrecht: NIVEL.
- Van Teijlingen, E. 1994. "A Social or Medical Model of Childbirth? Comparing the Arguments in Grampian (Scotland) and the Netherlands." Ph.D. thesis, University of Aberdeen.
- Van Teijlingen E. 2003. "Dutch Midwives: The Difference between Image and Reality." In *Gender, Identity and Reproduction: Social Perspectives*, edited by S. Earle and G. Letherby, 120–34. London: Palgrave.
- Van Teijlingen, E., G. Lowis, P. McCaffery, and M. Porter (eds.). 2004. *Midwifery and the Medicalization of Childbirth: Comparative Perspectives*. Hauppauge, NY: Nova Science.
- Wiegers, T. A. 1997. "Home or Hospital Birth: A Prospective Study of Midwifery Care in the Netherlands." Ph.D. thesis, Leiden University. Utrecht: NIVEL.
- Wiegers, T. A. 2006. "Adjusting to Motherhood: Maternity Care Assistance during the Postpartum Period: How to Help New Mothers Cope." *Journal of Neonatal Nursing* 12:163–71.
- Wiegers, T. A., L. Hingstman, and J. van der Zee. 2000. "Thuisbevalling in gevaar" [Home Birth in Danger]. *Medisch Contact* 55.19: 701–04.
- Wiegers, T. A., and Janssen, B. M. 2006. *Monitor Verloskundige Zorgverlening: Eindrapport* [Monitor Maternity Care: Final Report]. Utrecht: NIVEL.